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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,306	02/13/2004	Rocco Vincent Burgo	INO001-158600	7434

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EXAMINER

RAE, CHARLESWORTH E

ART UNIT	PAPER NUMBER
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1611

MAIL DATE	DELIVERY MODE
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01/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/779,306	Applicant(s) BURGO ET AL.	
	Examiner Charleswort Rae	Art Unit 1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 19-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/26/07;5/19/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's response to the restriction/election requirements mailed 6/29/07, electing invention I (claims 15-18; polyesteramine compound) is acknowledged and made of record.

Applicant's amendment received 11/126/07 is also acknowledged and entered of record.

Status of the Claims

Claims 1-49 are currently pending in this application.

Claims 19-49 are withdrawn for being directed to non-elected subject matter.

Claims 1-18 are presented for examination.

Restriction/Election

It is noted that claims 1-14 are considered to be generic claims of the elected species (i.e. claims 15-18) and are being included for examination purposes.

Claim rejections – 35 USC 112 – Second Paragraph

The following is a quotation of the second paragraph of 35 USC 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 16 recite the term "R7," but fails to clearly and concisely state what the term specifically relates to with respect to the recited formula. Thus, this

limitation is found to be vague and indefinite because it is not clear how "R7 relates to the recited formula in claim 15.

Dependent claims 17 and 18 are rejected for the same reason for failing to correct the deficiency of the independent claim from which they depend.

Claim rejections – 35 USC 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

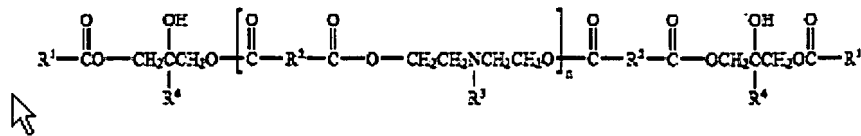
Claims 1-18 are rejected under 102(e) as being anticipated by Tang (US Patent 7,101,538; **already made of record by applicant**).

The term "*aliphatic*" as recited claim 15 is reasonably construed to encompass any straight or branched carbon containing chain (see Hackh's chemical Dictionary. 1969; page 25).

The term "*wherein the molecular weight of the polyesteramine is between about 600 Daltons and about 5,000 Daltons*" as recited in claims 6, 13, and 18 is construed to be an inherent characteristic of the claimed compounds.

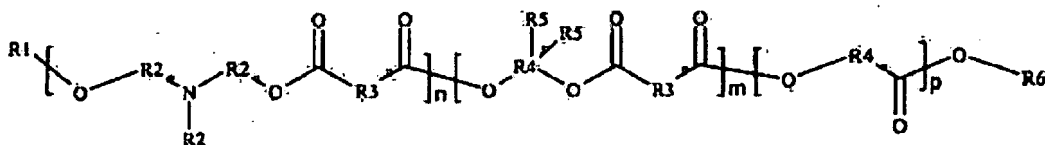
The term "*wherein the pH is between about 7.0 and about 10.0*" as recited in claims 5 and 12 is construed to be an inherent characteristic of the claimed compounds.

Tang teaches polyesteramine compounds having the below formula:



wherein each R^1 is independently a linear, branched or cyclic hydrocarbyl group; each R^2 is independently the same or different hydrocarbylene group; each R^3 is independently hydrogen or a hydrocarbyl group; each R^4 is independently hydrogen, methyl or ethyl; and n is an integer from 1 to about 60. More preferably, each R^1 in the polyesteramine is independently a linear, branched or cyclic hydrocarbyl group of 3 to 23 carbon atoms, and most preferably each R^1 is independently a linear, branched or cyclic hydrocarbyl group of 16 to 22 carbon atoms.

Compounds having the above formula as taught by Tang overlaps with the instant claimed compounds having the below general formula (especially col. 1, line 10 to col. 5, line 67):



when instant R^1 equivalent (= R^1 of Tang) is a linear, or branched group of carbon atoms; instant R^2 equivalent is a C2 aliphatic group; instant R^3 equivalent is a hydrocarbylene group, preferably of 1 to 10 carbon atoms (= R^2 of Tang). The terms "a tertiary amine group;" "an ester linkage;" "alkyl chain;" "a hydroxyl group;" a carboxylic acid group;" as recited in claims 1, 2, 3, 4, 8, 9, 10, 11, and 14 also overlap with said

teaching of Tang as evidenced from simply inspecting the above referenced formula. To the extent that the instant claims overlap with the prior art, claims 1-6, and 9-18 are deemed to be anticipated.

Claim rejections – 35 USC 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

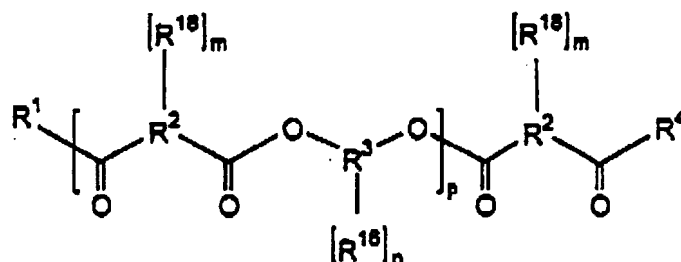
Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grillo et al. (WO 96/06878), in further view of Okamoto et al. (US Patent 6,489,412).

The term "*aliphatic*" as recited claim 15 is reasonably construed to encompass any straight or branched carbon containing chain (see Hackh's chemical Dictionary, 1969; page 25).

The term "*wherein the molecular weight of the polyesteramine is between about 600 Daltons and about 5,000 Daltons*" as recited in claims 6, 13, and 18 is construed to be an inherent characteristic of the claimed compounds.

The term "*wherein the pH is between about 7.0 and about 10.0*" as recited in claims 5 and 12 is construed to be an inherent characteristic of the claimed compounds.

Grillo et al. teach derivatized polyester resins made from aliphatic dicarboxylic acids for use in formulation aids and conditioning agents in hair and skin personal care products having the below general formula:



wherein R¹ is -N(R⁵)(R⁶) or -OR⁷; R² is independently C₁-C₁₀
15 aliphatic; R³ is independently C₁-C₁₀ aliphatic having 0-5 oxygen atoms as ether groups; R⁴ is R¹; p is an integer between 3-100, inclusive; R⁵ is H or C₁-C₁₀ aliphatic; R⁶ is -R⁸-N(R⁹)₂(R¹⁰), -polyamino acid-C(=O)OR¹¹, -R⁸-P(R¹³)₃ R¹⁴ or -R⁸-S(R¹⁵)₂ R¹⁴; R⁷ is H, R¹², -R³-OC(=O)-R¹², -R³-OSO₂O⁻ R¹² or -R³-SO₃⁻ R¹²; R⁸ is C₁-C₃; R⁹
20 is independently C₁-C₃ having 0-3 -OH substituents; R¹⁰ is -H R¹⁴, -R⁹ R¹⁴, -O⁻, -(CH₂)₁₋₃-C(=O)O⁻, -CH₂CH(OH)CH₂-NH-polyamino acid-COO⁻, -CH₂CH(OH)CH₂-NH-polyamino acid-COOR¹⁵ R¹⁴ or -CH₂CH(OH)CH₂-NH-polysiloxane R¹⁴; R¹¹ is R¹² or C₁-C₂₂; R¹² is lithium, sodium, calcium, magnesium, ammonium
25 monoalkylammonium, dialkylammonium, trialkylammonium, or tetraalkylammonium, where an alkyl portion of an ammonium group

has 1-20 carbon atoms and 0-3 hydroxyl groups; R^{13} is C_1-C_{22} aliphatic; R^{14} is halide, sulfate, phosphate, citrate, lactate, malate, fatty carboxylate or polymeric carboxylate; R^{15} is C_1-C_{22} hydrocarbon; R^{16} is $-O(C=O)R^1$, H, or $-O[C(=O)-R^2(R^{18})_m-C(=O)O-$
5 $R^3(R^{16})_n-O]_pC(=O)-R^2(R^{18})_m-C(=O)-R^1$; n is an integer between 1 and 5, inclusive; R^{18} is $-C(=O)R^1$, H, or $-C(=O)O-R^3-O[C(=O)-R^2(R^{16})_n-C(=O)O-R^3(R^{16})_n-O]_pC(=O)-R^2(R^{18})_m-C(=O)-R^1$; and m is an integer between 1 and 5, inclusive; with the proviso that when R^1 is either $-OH$ or $-O-R^3-OH$, then R^4 is neither $-OH$ nor $-O-R^3-OH$.

In particular, the instant claimed formula overlaps with the teaching of Grillo et al. with respect to 1) dicarboxylic acid monomer unit, when reference R2 (equivalent to instant R3) is independently C2-C10 aliphatic; 2) tertiary amine monomeric unit, wherein reference R1 is N-(R5)(R6), and wherein reference R5 is H and R6 is R8-N(R9)2 (R10) as defined; ester linkage, wherein reference R3 is independently C2-C10 aliphatic having 0-5 oxygen atoms as ether groups; and reference R4 is R1, wherein R1 is OR7, and wherein R7 is H. Grillo et al. do not expressly teach "an aryl chain" as recited in claims 7 and 8.

Based on the teaching of Grillo et al., someone of skill would be motivated to derivatize the instant claimed polyesteramines for use in hair and skin personal care products in view of the fact that most polyesters have limited performance properties in personal care product formulations coupled with the fact that polyesters can be difficult to incorporate into stable formulations (page 1, lines 23-27).

Thus, someone of skill in the art at the time the instant claimed invention was made would have found it obvious to create the instant claimed combination of monomeric subunits with reasonable predictability.

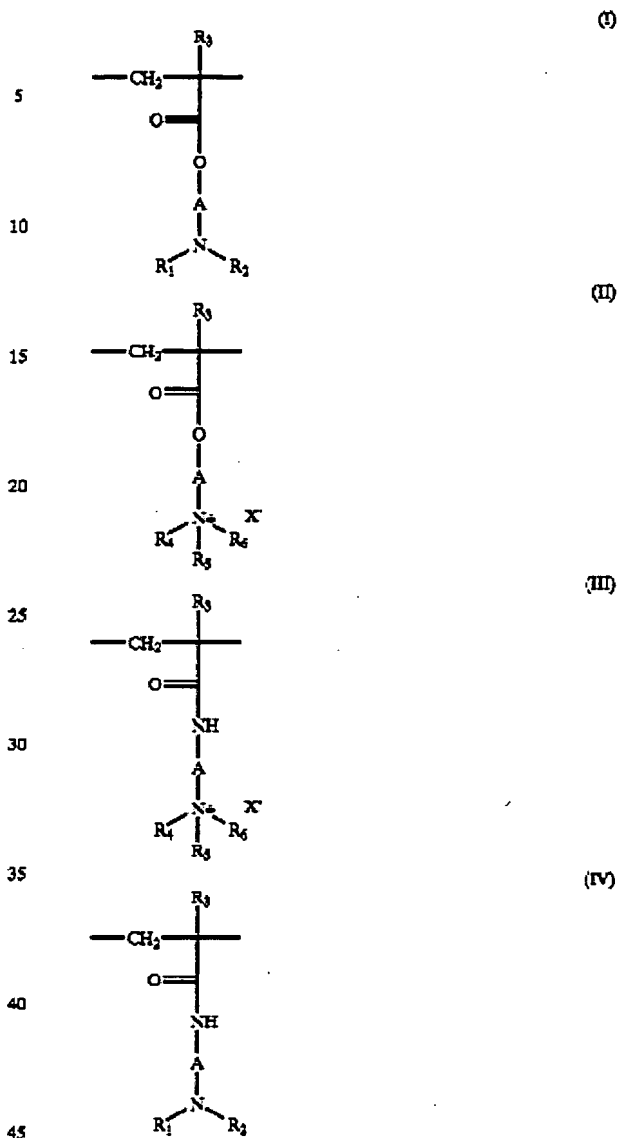
Relevant Art of Record

The below art references made of record and relied upon is considered pertinent to applicant's invention.

Ota et al. (JP 10259115) teach an hair treating agent comprising (A) an active hydrogen- containing compound and (B) a polyurethane derived from a polyisocyanate compound and is prepared by using the active hydrogen-containing compound containing a tertiary amine (salt) and/or the active hydrogen-containing compound containing a quaternary ammonium salt group as at least a part of the ingredient A (abstract only).

Laurent et al. (US Patent 6,602,303) teach cationic polymers having the below formula, having a benzyl group (col. 22):

22



wherein:

R₃, which may be identical or different, are each chosen from hydrogen and a methyl group;

A, which may be identical or different, are each chosen from linear and branched (C₁-C₆)alkyl groups, such as (C₂-C₃)alkyl groups, and (C₁-C₄)hydroxyalkyl groups;

R₄, R₅ and R₆, which may be identical or different, are each chosen from (C₁-C₁₂)alkyl groups, such as, (C₁-C₆), and a benzyl group;

R₁ and R₂, which may be identical or different, are each chosen from hydrogen and (C₁-C₆)alkyl groups, such as a methyl group and an ethyl group;

X⁻ is an anion chosen from anions derived from at least one inorganic acid and anions derived from at least one organic acid, such as a methylsulfate anion and halides, such as chloride and bromide.

(1) homo- and copolymers of family (1) may further com-

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlesworth Rae whose telephone number is 571-272-6029. The examiner can normally be reached between 9 a.m. to 5:30 p.m. Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, can be reached at 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 800-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

9 January 2008
CER

BRIAN-YONG S. KWON
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to be 'B. Kwon', with a stylized flourish extending to the right. The signature is written over a circular stamp that contains the text 'E. PH.'.